Subject: Re: Memory problem
Posted by Jean H. on Thu, 14 Feb 2008 18:32:47 GMT
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jujo@argentina.com wrote:
> Hi!
> I'm trying to make a very large array:
>
> a=fltarr(5287, 7707, 8)
>
> Then I got the warning: 'Unable to allocate memory: to make array.'
>
> Is there any way to avoid this message?
>
> Best!
> Jurandir

yes, you can buy more memory and/or switch to linux.

Under Windows, you can have, by definition, at most 2Gb of ram per process (3Gb indeed, if you trick your system... have anybody tried it with IDL 7??), while under linux, you have no limit.

Now, IDL always need contiguous memory space to create an array. Under windows, the operating system uses some small amount of memory located anywhere, so you can never have more than +- 1.2Gb of contiguous memory. Under Linux, the operating system uses the beginning of the memory space, allowing much bigger arrays to be created.

You array is about 1.2 Gb. You can create an array of 8 pointers, each pointing to a 5287 * 7707 array, which are about 155 Mb.

Another option is to cut down your array in two or more. For example, you create arrays of a maximum size of 500 * 500 * 7 (whatever), and you create multiple arrays to contains all your data. Like that, you can save and restore some arrays to your disk (and therefore free some memory)!

Have a look at the program memtest made by ittvis. It will tell you the size of the 10 biggest array you can make. I have made a modified version (search in this newsgroup for "availablememory" or under my name (jean H) to find it. I use it often to 1) assess the max available memory, 2) take out the memory that I will need to process my array, 3) create 1 array of the max possible size, fill it, save it to disk, remove from memory, 4) create another array etc, 5) restore the first array, process it, delete it, 6) restore the 2nd array, process it etc.

Good luck with that!
Jean